1. Does the position of your seat affect the way you feel on this ride?

2. When are you travelling the fastest? slowest?

3. Describe your sensations of weight:

   a: at rest_____
   b: moving through the lowest point_____
   c: at the highest point_____
   d: halfway, going up_____
   e: halfway, going down_____

4. Record your vertical accelerometer readings:

   a: at rest_____
   b: moving through the lowest point_____
   c: at the highest point_____
   d: halfway, going up_____
   e: halfway, going down_____

5. Where did the maximum acceleration occur? Is this point the same for every seat?

6. Is the maximum and minimum accelerometer reading the same for every seat?

7. What happens to the way you feel as the ride swings higher?

8. Do you feel the same swinging forward as you do swinging backward?

9. To feel the lightest, you should sit (closer to) or (farther from) the center of the gondola.

10. When you are the highest above the ground, you are traveling the (slowest) or (fastest)?

11. When you are highest above the ground, you feel the (lightest) or)heaviest).

12. On your diagram indicate what point(s) of the swing has/have the greatest potential energy and at what point(s) of the swing the boat has/have the greatest kinetic energy.

13. Determine the period of the ride by timing 10 swings:
    a: for small oscillations T = _____ seconds
    b: for large oscillations T = _____ seconds
    c: Was the period affected by the size of the oscillations?

14. How do the points of greatest potential energy compare to the following? Are they the same or different than?

    a. points of lowest accelerometer readings _____
    b. points of maximum accelerometer readings _____
    c. points of minimum velocity _____
    d. points of maximum velocity _____

15. How do the points of greatest kinetic energy compare to the following? Are they the same or different than?

    a. points of lowest accelerometer readings _____
    b. points of maximum accelerometer readings _____
    c. points of minimum velocity _____
    d. points of maximum velocity _____

16. What two forces are acting on you during the ride?

    a._____ b._____

17. Is the River Rocker a free swing or a driven pendulum? How did you reach you conclusion?

18. Does the number of people on the ride alter any results or conclusions?

19. Determine the radius of the ride.

20. Determine the period of the ride by timing 10 swings.

21. Based on the measured period, is the River Rocker a simple pendulum?

22. Determine the height your seat reaches.

23. Use conservation of energy to determine your potential energy and kinetic energy when:

a: at rest_____
b: moving through the lowest point_____
c: at the highest point_____
d: halfway, going up_____
e: halfway, going down_____

24. Determine your velocity when:
a: at rest_____
b: moving through the lowest point_____
c: at the highest point_____
d: halfway, going up_____
e: halfway, going down_____

25. Calculate your centripetal acceleration when:

a: at rest_____
b: moving through the lowest point_____
c: at the highest point_____
d: halfway, going up_____
e: halfway, going down_____